



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/705,312	11/10/2003	Ricky Dion Barnes	5198-001	4460
24112	7590	06/14/2007	EXAMINER	
COATS & BENNETT, PLLC 1400 Crescent Green, Suite 300 Cary, NC 27518			MUSSELMAN, TIMOTHY A	
ART UNIT		PAPER NUMBER		
3714				
MAIL DATE		DELIVERY MODE		
06/14/2007		PAPER		

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	Application No.	Applicant(s)
	10/705,312	BARNES ET AL.
	Examiner Timothy Musselman	Art Unit 3714

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

1) Responsive to communication(s) filed on 30 March 2007.  
 2a) This action is **FINAL**.      2b) This action is non-final.  
 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

4) Claim(s) 21-29 and 31-40 is/are pending in the application.  
 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.  
 5) Claim(s) \_\_\_\_\_ is/are allowed.  
 6) Claim(s) 21-29, 31-40 is/are rejected.  
 7) Claim(s) \_\_\_\_\_ is/are objected to.  
 8) Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

9) The specification is objected to by the Examiner.  
 10) The drawing(s) filed on \_\_\_\_\_ is/are: a) accepted or b) objected to by the Examiner.  
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).  
 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
 a) All    b) Some \* c) None of:  
 1. Certified copies of the priority documents have been received.  
 2. Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

1) <input type="checkbox"/> Notice of References Cited (PTO-892)	4) <input type="checkbox"/> Interview Summary (PTO-413)
2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)	Paper No(s)/Mail Date. _____
3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____	5) <input type="checkbox"/> Notice of Informal Patent Application
	6) <input type="checkbox"/> Other: _____

## DETAILED ACTION

### ***Claim Objections***

Claim 39 is objected to for failing to further limit parent claim 35. The limitations of claim 39 already appear in claim 35 in their entirety, and thus claim 39 does not further limit parent claim 35.

### ***Status of Claims***

In response to the amendment filed 3/30/2007, claims 21-29 and 31-40 are pending. Claims 1-20 and 30 have been cancelled.

**Claims 21, 22-23, 25-27, 29, 31-32, and 34-40 are rejected under 35 U.S.C. 103(a) as being unpatentable over Judd (US 4,934,937) in view of Gerber (US 5,788,500).**

[1] Judd discloses a laser combat simulation system comprising an emmitter positioned at a fixed location on a vertical support member configured to establish a height limit at the vertical boundary [Claims 21, 29, 35]. See col 3: 15-20 and fig.1. Note in figure 1 how the emitted laser establishes a boundary at about the shoulder level of the user. Judd further discloses a wearable sensor configured to emit an alarm signal responsive to its intrusion above the vertical boundary [claims 21, 29, 35, 39]. See col. 3: 39-55 and fig. 1. Note that with an emitted beam positioned above the user of figure 1, rising above the beam would require the sensors being struck by the beam, and thus an alarm would be triggered. Judd further discloses an adjustable vertical support to position the emitter at the vertical boundary [claims 22, 31, 36]. See fig. 2, and note that the laser is positioned through a vertical slot (item 34 of fig. 2) that appears to be such that it could accommodate various height adjustments of the laser. Additionally, the member upon which the laser is mounted could be adjusted such that the laser height would be changed. Judd further discloses wherein the emitter is an optical device that emits an optical beam [claim 26]. See col. 1: 60-65. Judd further discloses a speaker to emit an audible sound to intrusion above the height limit

[claims 27, 34, 39]. See col. 3: 45-50. Judd further discloses wherein the adjustment mechanism is configured to selectively position the emitter at selected angular positions [claim 32]. See fig. 1, and note the various angles of the emitted beam. Judd further discloses wherein the height limit can be established at a height limit and the beam is substantially parallel to the floor (i.e. at an angle of 0 degrees relative to the floor) [claims 37, 38]. See fig. 1., and note that the swept beam is substantially parallel to the floor at a relative angle of 0 degrees. Judd further discloses configuring the wearable sensor to stop emitting the alarm when the sensor is positioned back below the height limit [claim 40]. See col. 3: 40-55. Note that a user is below the vertical boundary will not be in proximity to the beam, and thus the alarm will not be activated.

Although Judd discloses that the laser can be established to emit a vertical boundary through a radial sweep about an axis (see col. 3: 15-20), there is no teaching explicit teaching wherein the swept angle is a full 360 degrees [claims 21, 25, 29, 35]. However, Gerber discloses a laser combat simulation system, in which stationary emitters emit beams across a full 360 degrees. See col. 4: 45-55 and fig. 3. Therefore, it would have been obvious to one with ordinary skill in the art at the time of the invention, to increase the range ability of Judd to the full 360 degree field as taught by Gerber, so as to provide a more accurate combat simulation in which threats exist regardless of the relative angle to the threat.

Judd additionally fails to teach of redirecting elements spaced away from the emitter to receive a signal from the emitter and extend the height limit [claim 23]. However, Gerber teaches wherein the beam is redirected off of walls to simulate the effect of ricochet. Note that the reflected beams effectively redirect the beam, thus extending the height limit (which is established by the beam). See col. 8: 15-20. Therefore, it would have been obvious to one with ordinary skill in the art at the time of the invention, to utilize the beam redirection of Gerber, in the system of Judd, in order to more accurately represent battlefield scenarios (i.e. ricochet).

**Claims 24 is rejected under 35 U.S.C. 103(a) as being unpatentable over Judd (US 4,934,937) in view of Gerber (US 5,788,500), and in further view of Sampson et al. (US 6,579,097).**

[2] Regarding claim 24, Judd/Gerber disclose all of the features of parent claim 21 as described above, but fail to teach of a second emitter configured to combine with the emitter to establish the height limit at the vertical boundary. However, Sampson teaches a firearm training system in which the user wears a sensor which responds to signals from both a stationary emitter, as well as emitters mounted on weapons carried by other players. See col. 3: 1-17. Therefore, it would have been obvious to one with ordinary skill in the art at the time of the invention, to include the additional emitters of Sampson in the system of Judd/Gerber, in order to simulate the multiple threats faced in combat.

**Claims 28 and 33 are rejected under 35 U.S.C. 103(a) as being unpatentable over Judd (US 4,934,937) in view of Gerber (US 5,788,500), and in further view of Messiano (US 5,599,187).**

[3] Regarding claims 28 and 33, Judd/Gerber disclose all of the features of parent claims 21 and 29 as described above, including an adjustable height limit, but fail to teach wherein the height limit is adjustable by use of a remote control. However, Messiano discloses a firearm training system that includes this feature. See col. 1: 6-11, and col. 2: 35-51. Therefore, it would have been obvious to one with ordinary skill in the art at the time of the invention to utilize the remote control capabilities of Messiano in the system of Judd/Gerber, in order to allow the firing mechanism to more accurately portray an enemy soldier (i.e. increased aiming accuracy).

### ***Response to Arguments***

Applicant's arguments filed 3/30/2007 have been fully considered but they are not persuasive. Applicant's arguments that the emitter of Judd is not able to rotate through 360 degrees are moot in view of the new grounds of rejection.

Applicant's arguments that the device does not produce a continuous vertical boundary due to its intermittent operation and the interference of the mannequin are not persuasive. Examiner notes that applicant has not claimed a continuous vertical boundary around a 360 degree axis. Rather, applicant has claimed an *emitter* able to rotate through 360 degrees. Even with the limitation of claim 26 wherein applicant adds the limitation that the emitter emits a beam, there is still no claimed limitation wherein the *beam provides an essentially continuous vertical boundary through 360 degrees of rotation*, but only that the emitter itself *can* rotate through 360 degrees (with or without a beam). Likewise, the interference of the mannequin with regard to the sweep of the beam is moot for the same reason, as such interference with the emitted beam does not pertain to any claimed limitations regarding rotation of the emitter. Additionally, even with the interference of the mannequin, the beam would still sweep through 360 degrees. The fact that a portion of the beam would be blocked is irrelevant because as previously stated, applicant has not claimed wherein the beam provides a *continuous vertical boundary through 360 degrees*.

### **Conclusion**

**THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Timothy Musselman whose telephone number is (571)272-1814. The examiner can normally be reached on Mon-Thu 6:00AM - 4:30PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Robert Pezzuto can be reached on (571)272-6996. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

TM

TM

  
Kathleen Mosser  
Primary Examiner  
Art Unit 3714